



Protecting the People Who Feed the World

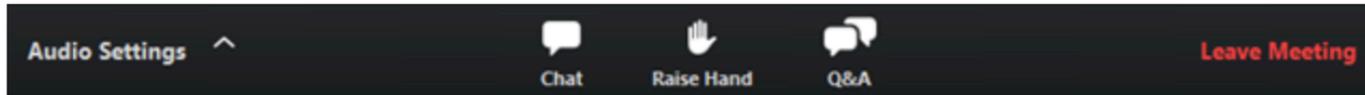
**DISPELLING  
MISINFORMATION  
ABOUT THE  
COVID19 VACCINE:  
WHAT AGRICULTURAL  
PRODUCERS NEED TO  
KNOW**

# Protecting the People who Feed the World<sup>®</sup>



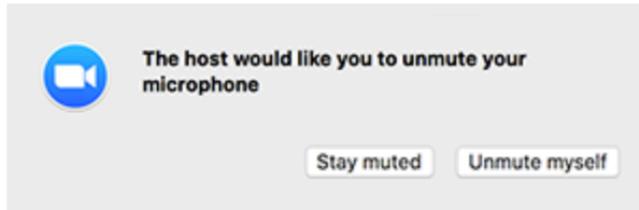


[LEARNING.AGRISAFE.ORG](http://LEARNING.AGRISAFE.ORG)



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**Chat:** Open [in-meeting chat](#), allowing you to send chat messages to and send a message to the host, panelists, and attendees (if permitted).

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# ZOOM INSTRUCTIONS

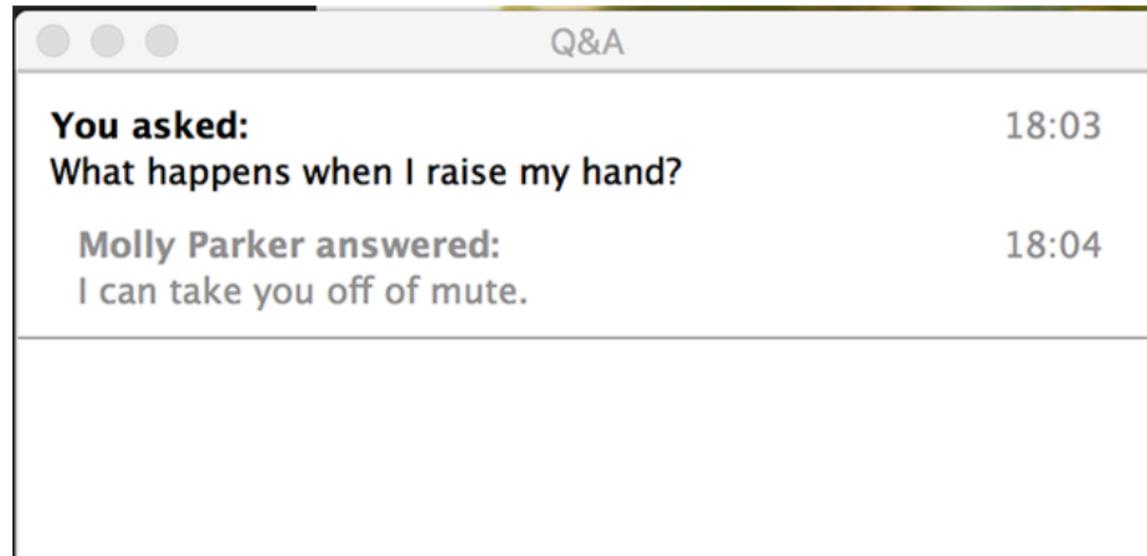
**Question & Answer:** Open the Q&A window, allowing you to ask questions to the host. They can either reply back to you via text in the Q&A window or answer your question via chat.

To ask a question:

1. Type your question into the Q&A box. Click **Send**.

**Note:** Check **Send Anonymously** if you do not want your name attached to Q&A.

2. If the host replies via the Q&A, you will see a reply in the Q&A window.



# ZOOM QUESTIONS & ANSWERS

*Thank you for attending!*



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# RURAL RESIDENTS HAVE HIGHER RISK

**Age:** ~20% of the rural population is over 65 compared to 13% in urban areas

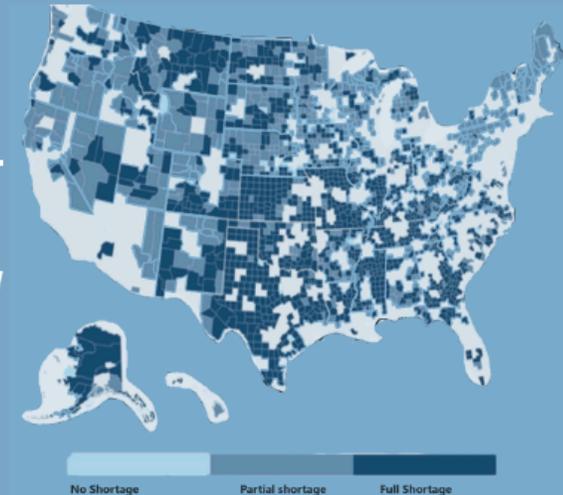
**Health Problems:** Rates of obesity as well as other chronic health issues are higher in rural areas

**Rural Mortality Penalty:** Rural areas have 134.7 more deaths each year due to health disparities when compared to urban areas



## RURAL MEDICAL CAPACITY

Most rural areas are in a health professional shortage area ([map to right](#)). A Princeton simulation showed that in both high and low infection rate scenarios, many rural healthcare systems were overwhelmed



# What Can be Done?



Prevent importation



Early action/detection



Telehealth



Disinfecting and Protective wear



Targeting key populations



Receive the COVID-19 vaccine

# What to expect before, during, and after COVID-19 vaccination

## Before



- Learn about COVID-19 vaccines.
- See if COVID-19 vaccination is recommended for you.

## During



- Read the fact sheet that tells you about the specific COVID-19 vaccine you receive.
- Receive a vaccination record card.

## After



- Expect some side effects.
- Enroll in v-safe. V-safe will remind you if you need a second shot.
- Continue using all the measures to protect yourself and others.

V-safe: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/vsafe.html>

# Protect yourself, your family, friends, coworkers, and your community. Get vaccinated.

- Choose to get vaccinated when it is offered.
- Participate in **v-safe** and help CDC monitor for any health effects after vaccination.
- Share your experience with coworkers, friends, and family.
- Know the basics about the COVID-19 vaccine. Help answer questions from your family and friends.
- Show you received the vaccine by wearing a sticker or button prominently.

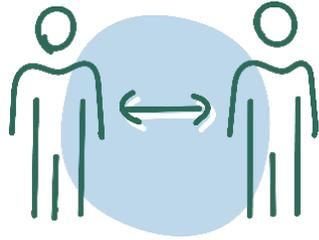


# After Vaccination

- Continue COVID-19 prevention measures:



Cover your nose and mouth with a mask.



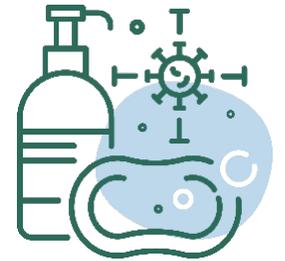
Stay at least 6 feet from people who don't live with you.



Avoid crowds and poorly ventilated spaces.



Wash your hands.



Clean and disinfect frequently touched surfaces.

- Enroll in [v-safe](#)
- If you have questions about your health and vaccination, call your doctor, nurse, or clinic.

# CDC ESSENTIAL WORKER TOOLKIT

This toolkit will help your organization educate employees about COVID-19 vaccines, raise awareness about the benefits of vaccination, and address common questions and concerns.



You Are Essential.



**On the job, and at home. Getting a COVID-19 vaccine adds one more layer of protection.**



Learn how you can get a COVID-19 vaccine.  
[cdc.gov/coronavirus/vaccines](https://www.cdc.gov/coronavirus/vaccines)



## COVID-19 Vaccines

**Vaccines (shots) are one of the tools we have to fight the COVID-19 pandemic.**



To stop this pandemic, we need to use all of our prevention tools. Vaccines are one of the most effective tools to protect your health and prevent disease. Vaccines work with your body's natural defenses so **your body will be ready to fight the virus**, if you are exposed (also called immunity). Other steps, like wearing a mask that covers your nose and mouth and staying at least 6 feet away from other people you don't live with, also help stop the spread of COVID-19.

Studies show that COVID-19 **vaccines are very effective** at keeping you from getting COVID-19. Experts also think that getting a COVID-19 vaccine may help keep you from getting seriously ill even if you do get COVID-19. These vaccines cannot give you the disease itself.



**The vaccines are safe.** The U.S. vaccine safety system makes sure that all vaccines are as safe as possible. All the COVID-19 vaccines that are being used have gone through the same safety tests and meet the same standards as any other vaccines produced through the years. A system in place across the entire country that allows CDC to watch for safety issues and make sure the vaccines stay safe.



**Different types of COVID-19 vaccines will be available.** Most of these vaccines are given in two shots, one at a time and spaced apart. The first shot gets your body ready. The second shot is given at least three weeks later to make sure you have full protection. If you are told you need two shots, make sure that you get both of them. The vaccines may work in slightly different ways, but all types of the vaccines will help protect you.

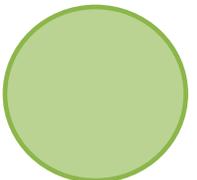


[www.cdc.gov/coronavirus/vaccines](https://www.cdc.gov/coronavirus/vaccines)

# RESOURCES- U.S. NATIONAL LIBRARY OF MEDICINE (MEDLINEPLUS)

All of the below resources are available at: <https://medlineplus.gov/covid19vaccines.html>

- ✓ 8 Things to Know about the U.S. COVID-19 Vaccination Program (Centers for Disease Control and Prevention) Spanish
- ✓ Combat COVID: Join the Fight (Department of Health and Human Services) Spanish
- ✓ Coronavirus Clinical Studies (COVID-19 Prevention Network) Spanish
- ✓ COVID-19 Vaccines (Centers for Disease Control and Prevention) Spanish
- ✓ COVID-19 Vaccines (Food and Drug Administration)
- ✓ Community Engagement Alliance (CEAL) Against COVID-19 Disparities (National Institutes of Health) Spanish
- ✓ COVID-19 Vaccine (Moderna) (American Society of Health-System Pharmacists)
- ✓ COVID-19 Vaccine (Pfizer-BioNTech) (American Society of Health-System Pharmacists)
- ✓ COVID-19 Vaccines: Get the Facts (Mayo Foundation for Medical Education and Research) Spanish
- ✓ What is an EUA (Emergency Use Authorization)? (Food and Drug Administration)



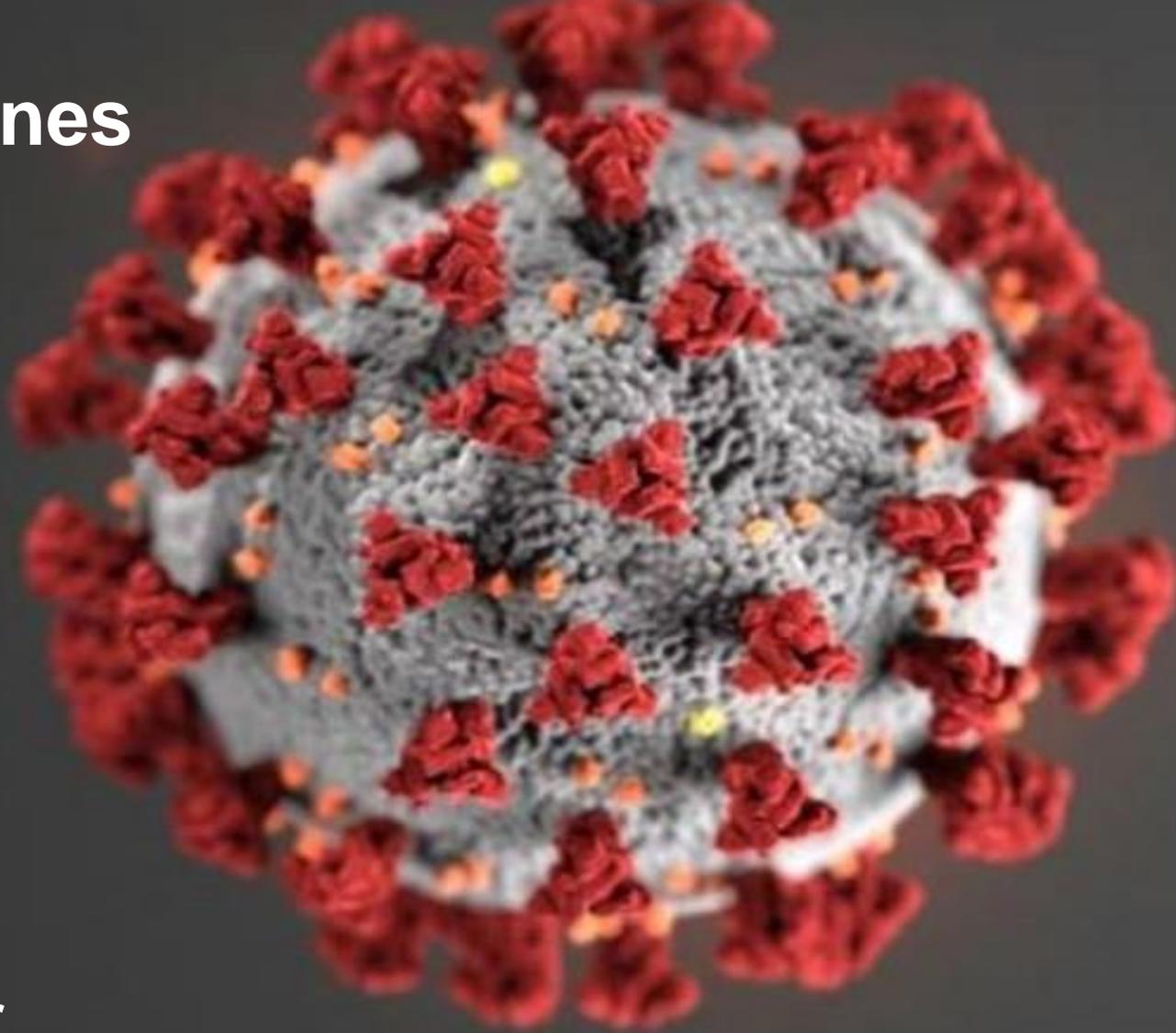
# Presenter



## **Lisa Morici, PhD, Associate Professor, Department of Microbiology and Immunology, Tulane University**

Dr. Lisa Morici is a tenured Associate Professor in the Dept. of Microbiology and Immunology at Tulane University School of Medicine. Her research program focuses on the development of next generation vaccines for biodefense and emerging or re-emerging infectious diseases. Dr. Morici has successfully moved candidate vaccines from the discovery stage to planned phase 1 clinical trials. Her vaccine research program is currently supported by the National Institutes of Health and the Dept. of Defense.

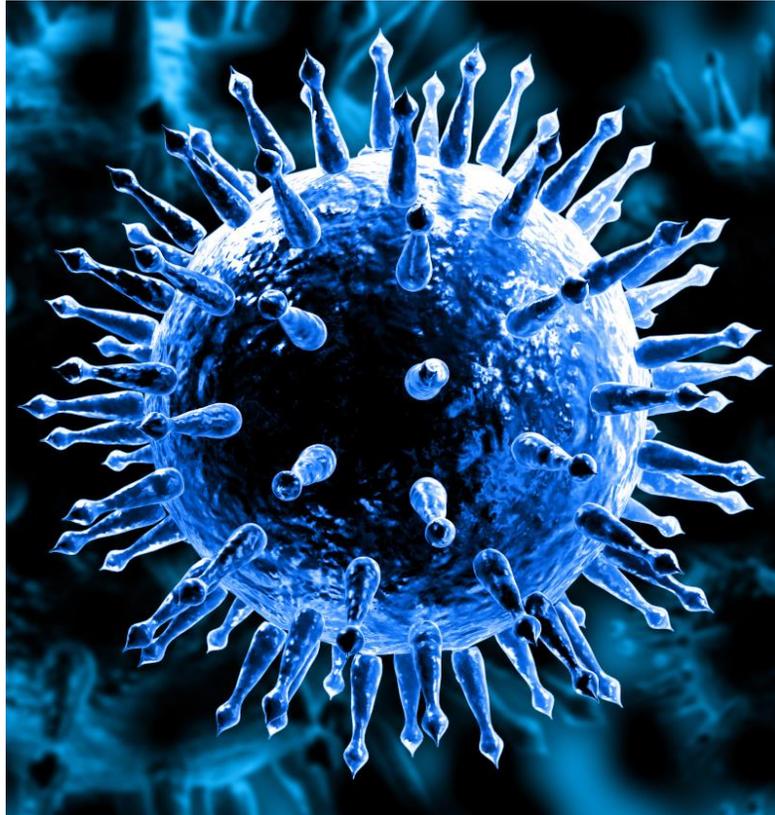
# Covid 19 Vaccines



**Lisa A. Morici, PhD**  
**Associate Professor**  
**Dept. of Microbiology and Immunology**

# Traditional vaccines: one drug for one bug

**Virus**



**Inactivate the virus**



**Influenza (flu)  
vaccine**

**Weaken the virus**

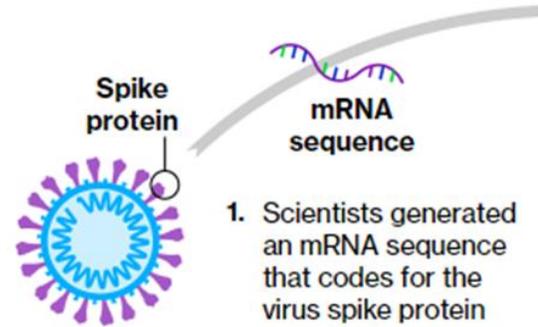


**MMR vaccine**

# What are the types of Covid-19 vaccines and how do they work?

## How mRNA Vaccines Work

The vaccine spurs healthy cells to produce viral proteins that stimulate a potent immune response



# mRNA-based COVID-19 Vaccines

## Moderna

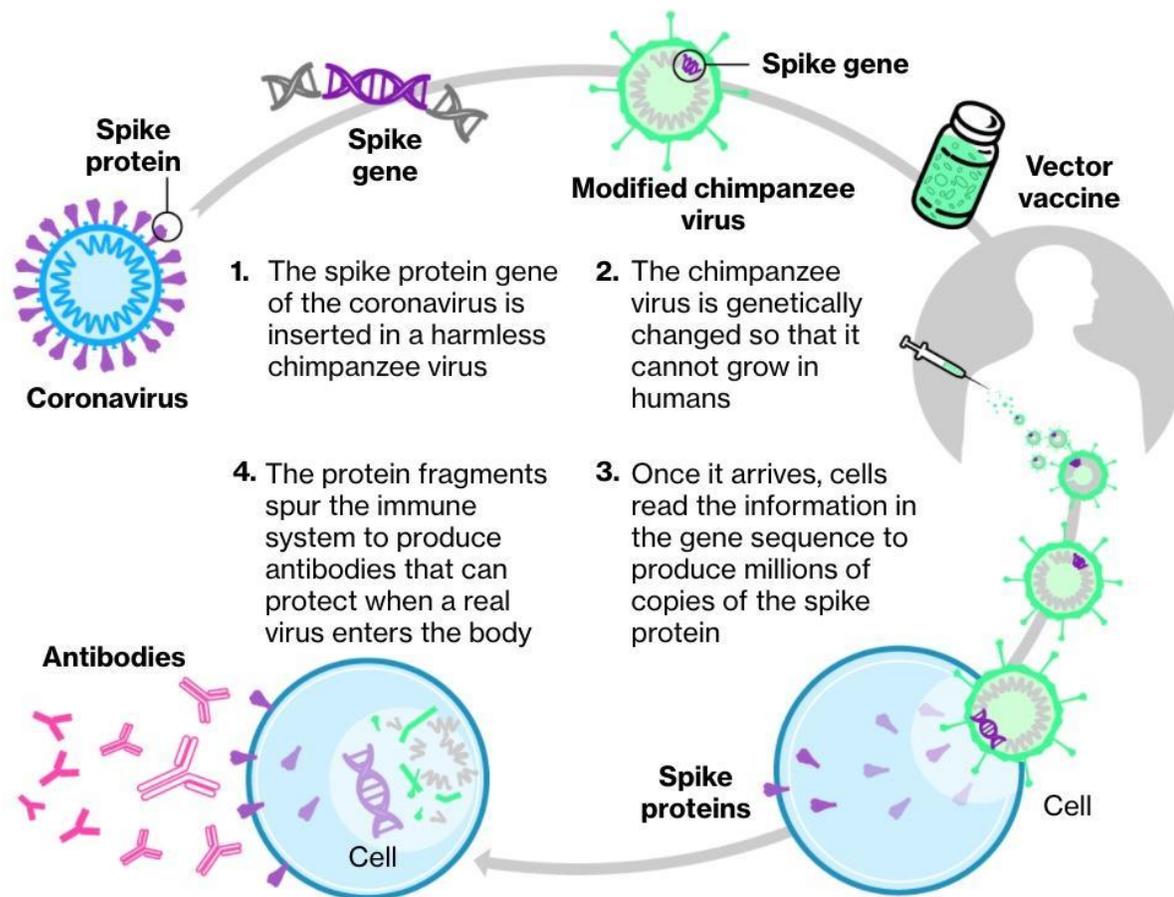
- mRNA inside lipid particles (fat bubbles)
- 2<sup>nd</sup> dose: 4 weeks later
- Efficacy = 94%

## Pfizer

- mRNA inside lipid particles (fat bubbles)
- 2<sup>nd</sup> dose: 3 weeks later
- Efficacy = 95%

## How the Oxford-AstraZeneca Vaccine Works

The viral vector vaccine uses a harmless virus to transport genetic material which triggers an immune response to the coronavirus



Sources: University of Oxford, AstraZeneca, Bloomberg research

# Adenovirus-based COVID-19 Vaccines

## Oxford-AstraZeneca

- Modified chimp adenovirus vector
- 2 doses (3-12 weeks apart)
- Efficacy: 76-82%
- May reduce infection/transmission by 67% after the first dose!

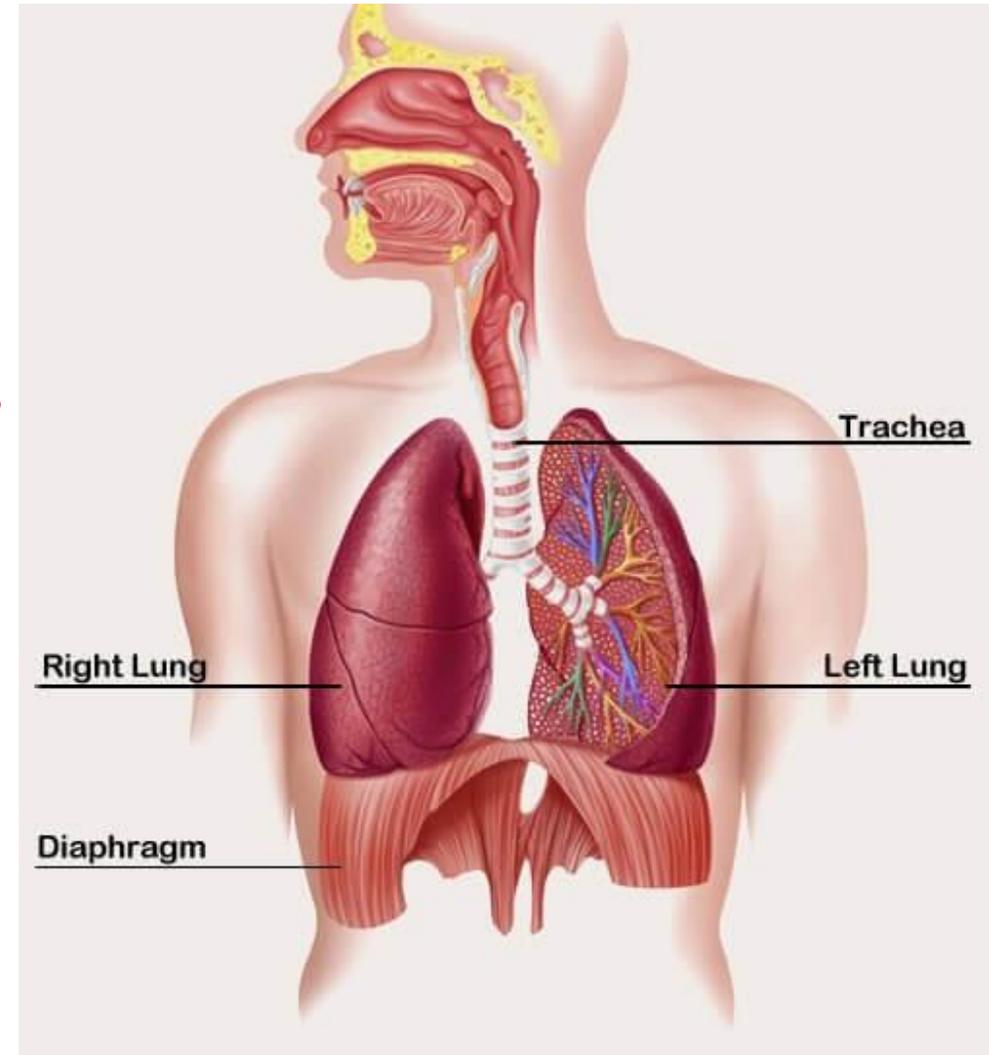
## Janssen (Johnson & Johnson)

- Modified human adenovirus
- 1 dose
- Efficacy: 66% (72% in US)

# Vaccine Efficacy versus Outcomes of Viral Exposure

1. No viral colonization/No infection
2. Viral colonization/infection
  - a. Asymptomatic
  - b. Symptomatic
    1. Mild/moderate **Efficacy measures % reduction in this**
    2. Severe/Hospitalization
    3. Death

**All of the vaccines are highly effective at preventing severe disease, hospitalization, and death!**



# Debunking Covid Vaccine Myths

The vaccines do not integrate into your DNA

The vaccines do not cause female infertility

The vaccines do not cause Covid-19

The vaccines do not carry microchips to track you

The vaccines were not rushed



## Traditional Paradigm

Multiple Years

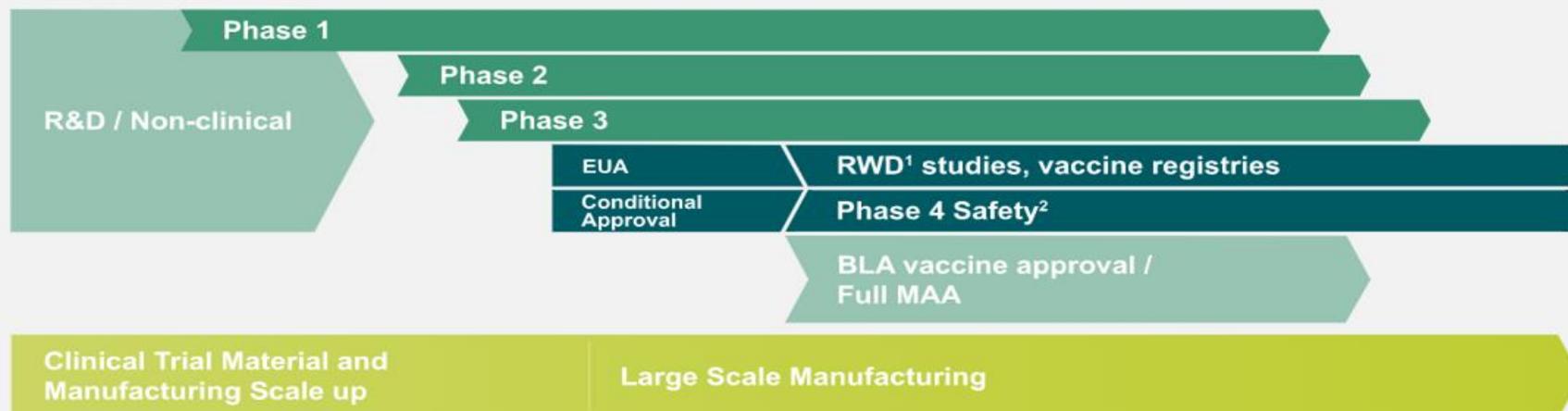


<sup>1</sup> Real world data

<sup>2</sup> Special and high-risk populations

## Pandemic / Outbreak Paradigm

Shortened Development Time



<sup>1</sup> Real world data

<sup>2</sup> Special and high-risk populations

# Tulane

SCHOOL OF MEDICINE

# VACCINES HAVE ALREADY BEEN TESTED IN TENS OF THOUSANDS OF VOLUNTEERS

- Pfizer's trial: 43,000 volunteers across 6 countries and 16 US states
- Moderna's trial: 30,000 volunteers in 30 US states
- J & J: Over 200,000 people have received the vector-based vaccine for Ebola (approved), Zika and HIV
- Results consistent across genders, age, ethnic and racial groups, and people with pre-existing medical conditions

# Safety of COVID-19 vaccines is a top priority

COVID-19 vaccines are being held to the **same safety standards** as all vaccines.

## Before Authorization



ACIP

- **FDA** carefully reviews all safety data from clinical trials.
- **ACIP** reviews all safety data before recommending use.

## After Authorization



- **FDA** and **CDC** closely monitor vaccine safety and side effects. There are systems in place that allow CDC and FDA to watch for safety issues.

**VAERS** Vaccine Adverse Event Reporting System  
[www.vaers.hhs.gov](http://www.vaers.hhs.gov)



V-safe: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/vsafe.html>

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# WHAT ARE THE VACCINE SIDE EFFECTS?

- mRNA and adenovirus vaccines won't linger in the body
- Side effects mostly mild or moderate: headaches, fatigue, pain at injection site; some develop chills, fever
- Allergic reactions to mRNA vaccines: 2-6 cases per million doses; believed to be due to polyethylene glycol component; treatable

# MUCH SAFER TO GET VACCINE THAN TO RISK GETTING COVID-19

- 1 in 10 coronavirus patients prolonged illness
- Many with 4 month-long battles of symptoms
- Neurological problems
- Chronic fatigue syndrome
- Asymptomatic infection may cause harm (heart, lung)

# DO WE REALLY NEED A COVID-19 VACCINE?

- Estimated 20% of Americans immune
- We need ~ 80% to get this virus under control (HERD IMMUNITY)
- So:  $80-20\% = 60\%$  more to get there
- 60% of 330 million people = 198 MILLION Americans
- 1-2% death rate = **2 - 4 million more deaths!!**
- Vaccine could lower this to thousands
- *YES, we desperately need vaccines to save lives*

# Will Vaccines Work Against the Variants?

SARS-CoV-2 Variant of Concern B.1.1.7 - first detected in England

This variant has been found in the United States. Likely to become dominant variant in a few months. More highly transmissible (wear a MASK). Not more deadly. Low immune escape.

SARS-CoV-2 Variant of Concern B.1.351 - first detected in South Africa

This variant has been found in the United States. More transmissible. Not more deadly. HIGH immune escape. Vaccines already being modified to protect against this variant!

# Common Questions about Covid vaccines

Should pregnant women get the vaccine?

Should immune-suppressed individuals get the vaccine?

Can children get the vaccine?

If someone had Covid, should they still get the vaccine?

Do I still have to wear a mask after getting the vaccine?